

U. S. PATENT APPLICATION

OF

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FOR

END CAP APPARATUS

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CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of commonly owned and pending U.S. Provisional Application Serial No. 60/453,844, filed March 11, 2003.

BACKGROUND OF THE INVENTION

10 1.. Field of the Invention

11 The present invention relates to an end cap for holding a
12 price label.

13 2. Problem to be Solved

14 When a retail store, such as a grocery store, offers
15 products for sale on shelves, store employees typically attach
16 hand written or pre-printed signs or other advertisements to the
17 shelves in order to inform customers of price or product
18 information. Such a practice is time consuming and inconvenient.
19 Furthermore, many retail stores utilize the space at the end of
20 the aisle-long shelf units between aisles to display merchandise.
21 This would require additional hand written or pre-printed signs.
22 Additionally, retail stores sometimes utilize semi-circular or
23 arc-shaped shelves at the end of the aisle-long shelf units. The
24 shape of these shelves makes it difficult to attach such hand-
25 written or pre-printed signs.

SUMMARY OF THE INVENTION

2 The present invention is directed to an end cap that can
3 retain a plurality of price labels, electronic price labels or
4 electronic shelf labels that inform customers of product and/or
5 price information. The end cap is removably attached to a shelf
6 or other structure used to display products and merchandise.

7 In one embodiment, the present invention is directed to an
8 end cap apparatus comprising an elongate base member comprising a
9 support member, and at least one bracket attached to the support
10 member to allow the elongate base member to be attached to a
11 structure such as a shelf or table. The end cap apparatus
12 further comprises a price label containment member secured to the
13 support member of the elongate base member for displaying a price
14 label.

BRIEF DESCRIPTION OF THE DRAWINGS

17 The features of the invention are believed to be novel. The
18 figures are for illustration purposes only and are not drawn to
19 scale. The invention itself, however, both as to organization and
20 method of operation, may best be understood by reference to the
21 detailed description which follows taken in conjunction with the
22 accompanying drawings in which:

23 FIG. 1 is an exploded view, in perspective, of the end cap
24 apparatus of the present invention, the view showing a base
25 member and a price label containment member.

1 FIG. 1A is a cross-sectional view of the price label
2 containment member shown in FIG. 1.

3 FIG. 2 is a perspective view of the end cap apparatus of the
4 present invention completely assembled.

5 FIG. 3 is a side elevational view of the end cap apparatus
6 of the present invention.

7 FIG. 4 is another perspective view of the end cap of the
8 present invention showing the front side of the end cap
9 apparatus.

10 FIG. 5 is front elevational view of the end cap apparatus of
11 the present invention.

12 FIG. 6 is a further perspective view of the end cap of the
13 present invention.

14 FIG. 7 is a perspective view of the rear of the end cap
15 apparatus of the present invention.

16 FIG. 8 is perspective view of the end cap apparatus of the
17 present invention illustrating the flexibility and resiliency of
18 the end cap apparatus of the present invention.

19 FIG. 9 is a top view showing the end cap apparatus of the
20 present invention attached to a generally arcuate shelf.

21 FIG. 10 is an exploded view, partially in cross-section,
22 illustrating how a price card holder may be secured to the end
23 cap apparatus of the present invention.

1 FIG. 11 is a side elevational view, partially in cross-
2 section, showing the price card holder of FIG. 10 secured to the
3 end cap apparatus of the present invention.

4 FIG. 12 is a side elevational view of another type of price
5 label containment member that may be secured to the base member
6 shown in FIG. 1.

7 FIG. 13 is a side elevational view, partially in cross-
8 section, showing the price label containment member of FIG. 12
9 secured to the base member shown in FIG. 1.

10 FIG. 14 is a side elevational view, in cross-section, of
11 another type of price label containment member that may be
12 secured to the base member shown in FIG. 1.

13 FIG. 15 is a side elevational view, partially in cross-
14 section, showing the price label containment member of FIG. 14
15 secured to the base member shown in FIG. 1.

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17 DETAILED DESCRIPTION OF THE INVENTION

18 In the description of the invention various embodiments
19 and/or individual features are disclosed. As will be apparent to
20 the ordinarily skilled practitioner, all combinations of such
21 embodiments and features are possible and can result in preferred
22 executions of the invention.

23 In describing the preferred embodiments of the present
24 invention, reference will be made herein to Figs. 1-15 of the

1 drawings in which like numerals refer to like features of the
2 invention.

3 Definitions

4 As used herein, the term "price label" includes electronic
5 price labels (known as EPLs), electronic shelf labels (known as
6 ESLs), non-electronic labels, flexible electronic or non-
7 electronic price label, electronic or non-electronic thin labels,
8 and non-electronic price labels. Examples of electronic price
9 labels and electronic shelf labels with which the present
10 invention can be used are generally described in U.S. Patent Nos.
11 6,107,936 and 6,551,738, the disclosures of which patents are
12 incorporated herein by reference.

13 Referring to FIGS. 1-8, there is shown end cap apparatus 10
14 of the present invention. End cap apparatus 10 generally
15 comprises base member 12. Base member 12 comprises support
16 member 13. Support member 13 has front side 14 and rear side 15
17 (see FIG. 7). In a preferred embodiment, front side 14 is
18 substantially planar. Base member 12 further includes brackets
19 16 that are attached to support member 13. Each bracket 16 has a
20 first portion 18 and a second portion 20. In one embodiment,
21 first portion 18 is angulated with respect to second portion 20
22 by angle θ_1 (see FIG. 3). In a preferred embodiment, angle θ_1 is
23 90 degrees. However, it is to be understood that angle θ_1 can be
24 any other suitable angle. First and second portions 18 and 20,
25 respectively, have openings 22. Fastening devices (not shown)

1 such as screws, tacks, nails, etc. are inserted into openings 22
2 in order to removably attach base member 12 to a structure such
3 as a shelf, table, pallet or other suitable structure. Referring
4 to FIG. 3, in a preferred embodiment, support member 13 is
5 angulated by angle θ_2 degrees with respect to portion 18 of each
6 bracket 16. Preferably, the angle θ_2 is between about 30 degrees
7 and 45 degrees. In a more preferred embodiment, the angle θ_2 is
8 about 45 degrees. It is to be understood that angle θ_2 can be
9 any other suitable angle. Thus, angles θ_1 and θ_2 can be varied
10 to facilitate attachment of base member 12 to a variety of
11 structures (e.g. shelf, table, etc.) having various elevations
12 with respect to the floor. In accordance with the present
13 invention, base member 12 is made from a material that has
14 strength, resiliency and flexibility such as aluminum or plastic
15 so as to allow base member 12 to flex as shown in FIG. 8.
16 However, it is to be understood that other suitable flexible and
17 resilient materials can be used to fabricate base member 12.
18 Such flexibility allows base member 12 to be used on the edges of
19 generally semi-circular or arcuate shelves or tables.
20 Referring to FIGS. 1, 2 and 4-8, end cap apparatus 10
21 further includes guards 30 and 32 that are removably attached to
22 front side 14. In one embodiment, guards 30 and 32 are removably
23 attached to front side 14 with screws 34 that are inserted into
24 openings 36 in support member 13. This embodiment is shown in

1 FIG. 1. In one embodiment, guards 30 and 32 are made of plastic.
2 However, guards 30 and 32 may be fabricated from other suitable
3 materials, e.g. rubber. In a preferred embodiment, guards 30 and
4 32 have a rounded and smooth shape that reduces the chances of
5 objects, such as shopping carriages or a peoples' clothing, from
6 becoming entangled on the edges of base member 12.

7 Referring to FIGS. 1-6 and 8, end cap apparatus 10 further
8 comprises price label containment member 40 that is attached to
9 front side 14 of support member 13. Price label containment
10 member 40 is positioned between guards 30 and 32. In one
11 embodiment, containment member 40 is adhered to front side 14
12 with an adhesive or an adhesive tape. In another embodiment,
13 containment member 40 is removably attached to front side 14 with
14 fasteners (not shown) such as screws or rivets. Containment
15 member 40 includes rear or back wall 50, and lengthwise flanged
16 end portions 52 and 54. In a preferred embodiment, lengthwise
17 flanged end portions 52 and 54 are generally perpendicular to
18 back wall 50. Lengthwise flanged end portion 52 includes lip 56
19 and lengthwise flanged end portion 54 includes lip 58 (see FIG.
20 1A). Lips 56 and 58 extend inward in a generally vertical
21 direction. In one embodiment, lips 56 and 58 are generally
22 perpendicular to lengthwise flanged end portions 52 and 54,
23 respectively. Containment member 40 is preferably made of molded
24 or extruded plastic. Lengthwise flanged end portions 52 and 54,
25 respectively, are separated by a predetermined distance that

1 allows for a price label to be frictionally inserted between
2 lengthwise flanged end portions 52 and 54. For example, the rear
3 side of the EPL described in U.S. Patent No. 6,551,738 can be
4 frictionally inserted between lengthwise end portions 52 and 54.
5 In one embodiment, lips 56 and 58 can be frictionally inserted
6 into grooves or channels that may be formed in an electronic
7 price label or electronic shelf label. Thus, it is to be
8 understood that the shape of containment member 40, including the
9 shape of lengthwise flanged end portions 52 and 54 and lips 56
10 and 58, can be varied so as to accommodate back sides of EPLs or
11 ESLs that have different shapes. In a preferred embodiment,
12 containment member 40 is made from a material that is strong, but
13 yet, allows containment member 40 to be flexed as shown in FIG.
14 8. End cap apparatus 10 can be flexed so as to facilitate
15 attachment of end cap apparatus 10 to a semi-circular or arc-
16 shaped shelf. Such a configuration is shown in FIG. 9 which is a
17 top plan view showing end cap apparatus 10 attached to semi-
18 circular or arc-shaped shelf 70. Brackets 16 are under shelf 70
19 and therefore are shown in phantom. Fasteners 72, such as
20 screws, are used to attach end cap apparatus 10 to shelf 70. In
21 one embodiment, price label containment member 40 is fabricated
22 from extruded resin.

23 It is to be understood that although the foregoing
24 description is in terms of containment member 40 being used to
25 retain price labels, it is to be understood that containment

1 member 40 can be used to retain price cards holders. One example
2 of such a price card holder is shown as price card holder 10 in
3 U.S. Patent No. 4,557,064, the disclosure of which is
4 incorporated herein by reference. This is illustrated in FIGS.
5 10 and 11 of the present application. Price card holder 100 has
6 the same construction as price card holder 10 shown in U.S.
7 Patent No. 4,557,064. Price card holder 100 has support portion
8 102 and outwardly extending ledges 104 and 106. Price card
9 holder 100 may be flexed by a user's fingers 107 so that
10 outwardly extending ledges 104 and 106 can be positioned between
11 lengthwise end portions 52 and 54 of containment member 40 (see
12 FIG. 11).

13 Referring to FIG. 12, there is shown an alternate price
14 label containment member 200 which is used with base member 12
15 instead of containment member 40 described in the foregoing
16 description. Containment member 200 is configured to have the
17 same structure as price label holder 10 described in U.S. Patent
18 No. 6,553,702 and shown in FIG. 1A of that patent. The
19 disclosure of U.S. Patent No. 6,553,702 is incorporated herein by
20 reference. A detailed description of containment member 200 is
21 not necessary here since the structure of containment member 200
22 is identical to the structure of price label holder 10 shown in
23 the U.S. Patent No. 6,553,702. Containment member 200 comprises
24 base channel 202 that has an overall C-shape conformation to
25 slidably accommodate and frictionally retain an associated

1 electronic price label. Containment member 200 further comprises
2 L-shaped clip portion 204 connected to the C-channel 202 by way
3 of top wall 208 and connecting arm 210. The L-shaped clip portion
4 204 and connecting arm 210 define an upwardly open slot or
5 channel 212 therebetween which is sized to frictionally receive
6 support member 13 of base member 12. Referring to FIG. 13, there
7 is shown end cap apparatus 300 which comprises base member 12 and
8 containment member 200 wherein support member 13 of base member
9 12 is positioned in slot 212 and frictionally engages clip 204
10 and a portion of wall 210. Containment member 200 extends for
11 substantially the entire length of base member 12. In accordance
12 with the invention, containment member 200 is fabricated from
13 flexible and resilient material to allow containment member 200
14 to flex in the event end cap apparatus 300 is used on a semi-
15 circular or arcuate shelf. In one embodiment, price label
16 containment member 200 is fabricated from extruded resin.

17 Referring to FIG. 14, there is shown an alternate price
18 label containment member 400 which is used with base member 12
19 instead of containment member 40 described in the foregoing
20 description. Containment member 400 is configured to have the
21 same structure as extruded plastic snap-in price channel 10
22 described as prior art and shown in FIG. 2 in U.S. Patent No.
23 5,394,632. The disclosure of U.S. Patent No. 5,394,632 is
24 incorporated herein by reference. Thus, containment member 400
25 comprises labeling panel 402, rearwardly extending leg 404 and

1 co-extruded clear plastic front cover 406. Labeling panel 402
2 has a barbed top portion 407. Slot or channel 408 is defined
3 between labeling panel 402 and front cover 406. The dimensions
4 of slot 408 allow support member 13 of base member 12 to be
5 inserted in slot 408 so as to frictionally contact barbed portion
6 407 and front cover 406. Referring to FIG. 15, there is shown
7 end cap 500 which comprises base member 12 and containment member
8 400 wherein support member 13 of base member 12 is positioned in
9 slot 408. Also positioned between support member 13 and front
10 cover 406 is a non-adhesive price label 410. Containment member
11 400 extends for substantially the entire length of base member 12
12 and thus, a plurality of non-adhesive price labels, such as label
13 410, can be secured between support member 13 and front cover
14 406. In accordance with the invention, containment member 400 is
15 fabricated from flexible and resilient material to allow
16 containment member 400 to flex in the event end cap 500 is used
17 on a semi-circular or arcuate shelf. In one embodiment, price
18 label containment member 400 is fabricated from extruded resin.

19 It is to be understood that the overall size of any of the
20 foregoing embodiments of the end cap apparatuses of the present
21 invention can be varied to accommodate price labels of different
22 types and sizes.

23 The principles, preferred embodiments and modes of operation
24 of the present invention have been described in the foregoing
25 specification. The invention which is intended to be protected

1 herein should not, however, be construed as limited to the
2 particular forms disclosed, as these are to be regarded as
3 illustrative rather than restrictive. Variations in changes may
4 be made by those skilled in the art without departing from the
5 spirit of the invention. Accordingly, the foregoing detailed
6 description should be considered exemplary in nature and not
7 limited to the scope and spirit of the invention as set forth in
8 the attached claims.